

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Sanjay L. PATIL, Kurt J. HALVERSON and      Group Art Unit:  
Robin E. WRIGHT

Divisional Application of Serial No. 09/410,863

Filed:      October 1, 1999

Examiner:    To Be Assigned

Serial No.:    To Be Assigned

Filed:      Herewith

For:    ARRAYS WITH MASK LAYERS AND METHODS OF MANUFACTURING SAME

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, DC 20231

Dear Sir:

Please enter the following Preliminary Amendment prior to examination of the application.

**IN THE SPECIFICATION**

Please replace the paragraph at page 1, lines 8-10 with the following paragraph. A version of the paragraph including markings to show the changes made is provided on a separate sheet.

This application is a divisional of U.S. Patent Application Serial No. 09/410,863, filed October 1, 1999, now pending, which claims the benefit of U.S. Provisional Application Ser. No. 60/152,261, filed September 2, 1999.

**IN THE CLAIMS**

Please cancel claims 1-31 and 41-63 without prejudice.

Please substitute amended claims 32 and 39 for pending claims 32 and 39. A version of the amended claims including markings to show the changes made is provided on a separate sheet.

32. (Amended) An article for use in manufacturing an array, the article comprising:

a polymeric substrate comprising a relaxed oriented film or a relaxed elastomeric material, the substrate having a surface; and

a mask layer on said surface, the mask layer comprising ink and linking agents and having a projected surface area and a topographical surface area wherein the topographical surface area is greater than the projected surface area.

39. (Amended) The article of claim 38 wherein the heat shrink film comprises biaxially oriented low density polyethylene, biaxially oriented linear low density polyethylene, biaxially oriented ultra low density polyethylene, or biaxially oriented ethylene vinyl acetate.

Please add the following new claims.

64. (New) The article of claim 32 further comprising one or more binding sites within the mask layer.

65. (New) The article of claim 32 wherein the mask layer has an optical density of about 0.5 or greater for light of a selected wavelength.

66. (New) The article of claim 65 wherein the mask layer has an optical density of about 1.0 or greater for light of a selected wavelength.

67. (New) An array comprising:  
the article of claim 64; and  
at least one reactant affixed to the one or more binding sites.

68. (New) The array of claim 67 wherein the reactant comprises one or more amino acids, one or more nucleic acids, one or more proteins, one or more carbohydrates, or a combination thereof.

69. (New) The array of claim 67 wherein the reactant comprises one or more oligonucleotides.

70. (New) The array of claim 67 wherein the reactant comprises cDNA.

### Remarks

The present application is a divisional application of U.S. Ser. No. 09/410,863, filed October 1, 1999 (the '863 application). The claims of the present application are drawn to Invention V identified in the Restriction Requirement (Paper No. 6) issued in the '863 application, mailed August 1, 2000.

Claims 1-63 are in the application.

Claims 1-31 and 41-63 have been canceled.

Claims 32 and 39 have been amended.

Claims 64-70 have been added.

Claims 32-40 and 64-70 remain under consideration.

Claim 32 has been amended to more particularly point out and distinctly claim the subject matter that the Applicants consider to be their invention. Claim 32 recites an article for use in manufacturing an array, the article including: a polymeric substrate comprising a relaxed oriented film or a relaxed elastomeric material, the substrate having a surface; and a mask layer on said surface, the mask layer comprising ink and linking agents and having a projected surface area and a topographical surface area wherein the topographical surface area is greater than the projected surface area.

Support for the amendment reciting that the polymeric substrate is a relaxed oriented film or a relaxed elastomeric material may be found throughout the specification, particularly from page 21, line 23 through page 24, line 5. Support for the amendment regarding the polymeric substrate having a surface and the mask layer being on the substrate may be found throughout the specification, particularly at page 10, line 13-20.

Claim 39 has been amended to more particularly point out and distinctly claim the subject matter that the Applicants consider to be their invention. Claim 39 recites the article of claim 32 in which the substrate is derived from a heat shrink film heat shrink film including biaxially oriented low density polyethylene, biaxially oriented linear low density polyethylene, biaxially oriented ultra low density polyethylene or biaxially oriented ethylene vinyl acetate.

Support for this amendment may be found throughout the specification, particularly from page 12, line 21 to page 14, line 22.

Claim 64 recites the article of claim 32 further including one or binding sites within the mask layer. Support for this claim may be found throughout the specification, particularly at page 17, lines 14-23.

Claims 65 and 66 recite the article of claim 32 having the specified optical densities for light of a selected wavelength. Support for these claims may be found throughout the specification, particularly from page 14, line 25 through page 15, line 10.

Claim 67 recites an array comprising the article of claim 32 and at least one reactant affixed to the one or more binding sites. Support for this claim may be found throughout the specification, particularly at page 9, lines 10-16.

Claims 68-70 are directed to the array of claim 649, specifying embodiments including particular reactants. Claim 70 recites that the reactants include one or more amino acids, one or more nucleic acids, one or more proteins, one or more carbohydrates, or a combination thereof. Claim 71 recites that the reactants include oligonucleotides. Claim 72 recites that the reactants include cDNA. Support for these claims may be found throughout the specification, particularly at page 4, lines 13-17; page 7, lines 19-29; and page 9, lines 17-23.

Applicants submit that subject matter the pending claims is novel and nonobvious and, therefore, patentable. Thus, favorable action on the pending claims is kindly solicited.

# CONCLUSION

Entry of the foregoing preliminary amendment prior to substantive examination is courteously requested. Examination and allowance of the pending claims is respectfully requested.

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Respectfully submitted,

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**Version with markings to show changes made**

**IN THE SPECIFICATION**

This application is a divisional of U.S. Patent Application Serial No. 09/410,863, filed October 1, 1999, now pending, which claims the benefit of U.S. Provisional Application Ser. No. 60/152,261, filed September 2, 1999.

[This application claims the benefit of U.S. Provisional Application Serial No. 60/152,261 entitled ARRAYS WITH MASK LAYERS AND METHODS OF MANUFACTURING SAME filed September 2, 1999.]

**IN THE CLAIMS**

32. (Amended) An article for use in manufacturing an array, the article comprising:  
a polymeric substrate comprising a relaxed oriented film or a relaxed elastomeric material, the substrate having a surface; and  
a mask layer on said surface, the mask layer comprising ink and linking agents [on the article, wherein the mask layer has] and having a projected surface area and a topographical surface area [that] wherein the topographical surface area is greater than the projected surface area.

39. (Amended) The article of claim [32] 38 wherein the heat shrink film comprises [substrate is derived from starting material selected from the group consisting of] biaxially oriented low density polyethylene, biaxially oriented linear low density polyethylene, [a] biaxially oriented ultra low density polyethylene, [and] or biaxially oriented ethylene vinyl acetate.